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ABSTRACT

According to this report, the accomplishments of the Sociolinguistics Studies on Southwest Bilingualism have been to (1) elicit a corpus of the speech (Spanish, English, and Mixed) of several hundred young adults and set up taxonomies of leading variables in both languages; (2) devise and apply a Sociolinguistic Background Questionnaire with over 90 demographic, attitudinal, and language usage items; (3) established working hypotheses for correlating such data with school performance records; and (4) develop a tentative working model (rational bilingualism) to correlate social and educational factors with language skills. Applications of the growing data bank are anticipated in programs aimed at curricular change for culturally and linguistically divergent pupils and students, special texts and programs intended for bilinguals in both Spanish and English, and attitudinal profiles of bilinguals/biculturals useful in understanding and coping with the special problems of this population and related ones (Puerto Rican, Cuban, and other Spanish-English speakers). (Author/SK)

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# REPORT ON A PROJECT TO APPLY SOCIOLINGUISTIC RESEARCH FINDINGS TO EDUCATIONAL NEEDS OF MEXICAN AMERICAN BILINGUAL/BICULTURALS

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## A. Introductory Considerations

By now sociolinguistics has begun to be fairly well established as a sub-branch both of linguistics and of sociology, or better the social sciences, if that is not too wildly broad a generic category.* And having said the above, we have virtually provided a sort of definition because sociolinguistics, in the final analysis, is only "new" in the more deliberate and conscious way in which it functions on two interrelated axes--one linguistic, the other sociological.

It would, nevertheless, be absurd to maintain that such interrelatedness did not exist before, indeed as long as dialect study has existed, but the degree to which the two dimensions are equated is what is innovative. Thus, at least as a general principle, one does not begin with merely linguistic data to which all else is subordinated or incidental, but proceeds as if the social dimension is of equal relevance. Moreover--and here we have a determined break with much of traditional linguistic analysis--the attitude is that language phenomena are only meaningful and understandable when examined in the light of the social groups which utilize them, as well as the respective domains of usage.

The writings of such sociolinguists as Labov, Fishman, Gumperz, Hymes, Fasold, Wolfram to name a few, are by now so well known that there is no need to cite such basic bibliography here. Above all, a perusal of their

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research would impress readers with the high correlations between linguistic phenomena and societal factors. At the same time, it is important to bear in mind Shuy's caveat that in the linguistic continuum, standard and non-standard features appeas in virtually all speakers' verbal output. What is significant, however, is their clustering at one end of the spectrum or the other.[1] This, of course, has enormous implications for persons involved in anti-poverty programs interested in the communicative competence of "underprivileged" rural and urban speakers.

An important implication here is that so much which was formerly considered idiosyncratic in nature, and attributed to random or free distribution now appears to be quite rule-ordered. The very notion of "idiolect" itself seems also to call for re-examination.

While there is no necessary contradiction or radical incompatibility between so-called traditional dialect geography and the sociolinguistic study of speech variations, that it seems to this writer what does occur is an inversion of the focus. Although in dialect geography there is a striving for fullness and inclusiveness of detail, the opposite obtains in the sociolinguistic approach. Particularly to those researchers following the Labovian model, the object is to arrive at a very small inventory of linguistic variables, perhaps only a half dozen or less, and which may turn out to have very significant correlations with social factors. That these variables tend to be non-standard ones is almost implicit.

At any rate, thanks to such an inversion of focus, a tremendous economy is, of course, achieved. At the same time, we must insist that both dialect geography and the sociolinguistic approaches, in their purest forms, have shortcomings brought about by their very virtues. In the long run, researchers of speech variation must seek and elaborate the models most effective for their projects, combining features from various approaches,

if feasible. Accordingly, as in any of the social sciences, a symbiosis is reached through what the economists term the approach method of "successive approximations."

B. Genesis of the Sociolinguistic Studies on Southwest Bilingualism

In 1968, a few members of the faculty of our institution began to realize that although we were situated right on the U.S.-Mexican border, our curricula might just as well have been planned for a university in Nebraska or Iowa, two states where ethno-cultural and linguistic diversity are extremely low, with a fairly homogeneous WASP make-up. By contrast, at our institution apparently the most bilingual/bicultural of any senior institution in all fifty states, well over a third of our enrollment is comprised of Mexican-Americans, with many classes reflecting well over 90 percent Spanish-surname constituency. Spanish is heard in the halls of our buildings as commonly as English, perhaps more so.

At the same time, we realized that while many millions of dollars were being spent on intervention programs such as Head Start, Project Bravo, and others under the Office of Education and Office of Economic Opportunity, the underpinnings of an adequate "data bank" were lacking. Hence to a large extent (and much more for Mexican-American programs than for Black, Puerto Rican, and White Appalachian ones), the individuals involved have been functioning intuitively; to use an apt simile of a former graduate dean here, Edmund Coleman, as "artists" rather than sceintists. Although this analogy may be overdrawn, only a satisfactory data base can assure the sort of perspective called for by applied educational sociolinguistics.

Our beginnings were extremely modest, and for the first three years, our total financial support consisted of some $2,600, representing pilot grants from our Research Institute and the Hogg Foundation for Mental Health of Austin, Texas.

Fortunately, last year the Spencer Foundation of Chicago, interested in educational innovation, awarded a grant of some $60,000 to us for the establishment of The Cross-Cultural Southwest Ethnic Study Center, for which my co-investigator is Z. Anthony Kruszewski, of the Department of Political Science. The Sociolinguistic Studies program is under the above aegis and is sponsoring, among other things, original research papers on topics ranging from a study of nonstandard features in the written English of Mexican-American college students by Robert Esch, Department of English to a historical sketch of Mexican-American background by Manuel Machado, Department of History, University of Montana.

While different faculty members have played a variety of roles in the Sociolinguistics Studies on Southwest Bilingualism, the nucleus of the team for the first two years consisted of Gary Brooks then the Director of the Office of Institutional Studies (and faculty member, School of Education); Bonnie Brooks, Department of Educational Psychology and Guidance; Paul W. Goodman, Department of Sociology; and the writer. The group, as noted above, began to meet in an informal basis in 1968, animated by the need for securing cold hard data on Mexican-American language and educational problems.

Our first concrete achievement was to devise a Sociolinguistic Background Questionnaire, (copyrighted by Brooks, Brooks, Goodman and Ornstein, 1971).[2] In order to identify its main weaknesses, it was administered on a trial basis to some 94 students of four randomly selected Spanish classes, two elementary, one intermediate and one advanced. The instrument contains 106 questions, mostly in multiple-choice form. In addition to the usual demographic items there are a number of questions of an attitudinal sort, as well as usage of English vs. Spanish in the domains of daily life (home, friends, school, church and work), followed by questions on life

style and work ethic. The very last query invites respondents to comment critically on any of the preceding items. Average time for completion is 20-25 minutes.

An optional part II of our questionnaire is made up of language elicitation, aimed at assessing linguistic performance in both Spanish and English or in a code-switching variety, and for which one might use Haugen's apt terms "bilingual dialect" or "contactual dialect"[3] or $L^3$ meaning "language variety three," a term proposed by Els Oksaar, University of Hamburg, at the First International Symposium on Language Acquisition meeting in Florence, Sept. 3-5, 1972). First comes an open-ended interview of several subjects together with the interviewer, who is usually a peer, and who broaches a variety of topics, intended to bring the former to the highest level of their competence. These range from elementary discussion of daily living, to topics of intermediate difficulty and complexity, such as comparisons of life styles in America and Mexico, or of a film recently seen, to the more advanced levels of abstraction and conceptualization, such as existentialist and other philosophies, religion as a force in life, and Chicano and other ethnic movements. One theme sure to draw fire in our area of the confluence of cultures is the desirability of Machismo, the Latin version of male supremacy.

After the oral interview comes the written portion, with three levels of topics, at each of which they have abundant choices, with the sole proviso that they must write on the same themes in both Spanish and English. This written component, we feel, provides a dimension too often neglected in American sociolinguistics, although the British school of Bernstein[4] and Lawton,[5] particularly the latter, emphasize it a great deal. In our opinion, without minimizing the oral vernaculars, writing and reading skills are an indispensable portion of ones communication equipment in an advanced

technological civilization such as ours.

I have purposely avoided discussion of bilingualism itself because it is often a reef against which essays like this can shipwreck. Decidedly, there are not many "balanced bilinguals" in the American Southwest since, in this situation of fairly stable bilingualism, the two languages fulfill different and prescribed roles for the various domains, with English tending to lead in the formal ones. Hence, the reason that our interviewees reveal a much better control of English in the abstract levels of oral performance, and in most of the written aspects of performance, is that it is the official and dominant language. Moreover, it is the language of instruction for most of schooling, and will remain so unless bilingual education makes greater inroads.

In order to cope with the socioeducational side of bilingualism, our team undertook a stratified random sample of our entire, full-time, undergraduate, unmarried student body, subdivided into 16 homogeneous groups according to age, sex, year of school, and other factors, within the two general populations of Spanish-surnamed individuals, or Mexican-American, and the others known in the Southwest by the portmanteau term of Anglos. This comprised approximately 5 percent of the undergraduate students present at this university in the academic year 1970-1971, or 301 in all, (154 Spanish surname and 147 Anglos), who have completed the Sociolinguistic Background Questionnaire as well as the CUES test. The latter is an acronym for College and University Environment Scales, a commercial instrument prepared by Pace and others for the Educational Testing Service, Princeton, New Jersey.[6]

The above instrument, consisting of 160 true-false items, attempts to measure students' perceptions of their home institutions, as these can be conceived and expressed along the following scales: (1) Practicality, (2)

Propriety, (3) Community, (4) Awareness, and (5) Scholarship. From these responses, a profile of the school's perceived climate on the five dimensions can be constructed. Also profiles for student subpopulations can be constructed and compared.

Wayne Murray who has completed his doctoral dissertation on the results of the CUES has observed: "Similar to individuals, schools have a unique 'personality' or 'climate'. Variables associated with different aspects of the climate or environment can be measured and used as information for administrative decision-making."[7] Hence, data from both CUES test and our Sociolinguistic Background Questionnaire will result in studies, already under way, intended to bring into focus significant differences in the way Southwest ethnic groups relate to educational systems.

The socioeconomic rating scale has been devised by Paul W. Goodman (an original team member), of our Sociology Department. He combined features from two well-known other scales, reversed the Hollingshead values for amount of education, and added an eighth value, while simplifying Duncan's occupational indices to an eight-point scale, adding up both numerical values for the result. It should be explained that El Paso (and certain other parts of the Southwest) find ethnic groups living much less in homogeneous enclaves or ghettoes, hence the validity of residency as a factor was questionable. This is not to suggest that our Southwest is a Utopia, but this fact did emerge in the sociological portion of our study. In a paper presented a few years ago, Goodman explains his methodology in full.[8]

On the linguistic side, a ten percent sub-sample has been taken of the overall sampling, with 30 students in all who thus completed our entire elicitation battery. The taped bilingual corpus and the compositions have been rated by three independent judges, who assigned ratings on a five-point scale, in which the top figure signified native proficiency.

Due to the difficulty of finding enough trained linguists with available time and inclination in my area, it was necessary to turn to colleagues elsewhere, who for token fees as consultants are analyzing parts of our corpus, thus supplementing the work done by the writer and others. These consultants are: Jerry R. Craddock, University of California, Berkeley, for general dialectology and Southwest Spanish lexicon; Fritz Hensey, University of Texas at Austin, for Spanish grammar and syntax; David Foster, Arizona State University, Tempe, for phonology. For English, consultants include: Trinity University, San Antonio, Texas, and Curtis W. Hayes, University of Nebraska. Among further participants at our school are William M. Russell, Fred Meza Brewer, and Ana María Marquez, Department of Modern Languages, as well as Ruperto Santana, Inter-American Institute.

An essay on Southwest Spanish lexicon by Craddock, has already been completed as have one on syntax by Hensey, and a paper on phonology by Foster. Some of these are serving as the basis for a volume of original studies on Southwest Spanish being edited by J. Donald Bowen of University of California at Los Angeles, Bernardo Vallejo, University of Texas, Austin and the writer.

Considerable portions of our corpuses have been utilized by graduate students for term papers and thesis topics.[9] These, in varying degrees, also help to fill in the gaps in our knowledge of Southwest language varieties, and will eventually be made available. Our holdings now include several hundred taped interviews, and double that amount of Spanish and English compositions by bilinguals. The materials fall under one of six series. Our stratified sub-sample is known as the "V" series, while elementary and public school elicitation performed by graduate students (themselves teachers) accounts for the "Y" series. Series "Z" comprises interviews and compositions by students here volunteering to serve as subjects, while "T" is a small taped corpus from 40-55 year old area Mexican-Americans, "A" consists of tapes and essays of

bilinguals from Spanish classes, elicited in 1969-1970, and "T" represents a windfall of 290 compositions written on topics of their own choice by bilingual students seeking advanced placement and credit in Spanish.

A great deal more utilization of our corpus is needed, however, including work along the lines of the Labovian variable model, so successfully practiced by what I call the "D.C. School of Sociolinguists," a number of whom have been connected with the Center for Applied Linguistics.

A tentative inventory of nonstandard variants has already been arrived at both for Spanish and English. Some of these are potentially usable as linguistic variables for sociolinguistic research projects as well as for the guidance of teachers and others in contact with Spanish and English speakers.

PARTIAL INVENTORY OF NONSTANDARD PHENOMENA IN SPANISH AND ENGLISH

Spanish

1. /č/ and /š/ alternation
2. /r/ with retroflex interference from English
3. /x/ with glottal interference from English
4. Realization of orthographic "ll" as Ø: (sia for silla)
5. Epenthetic /e/ in certain environments (final stressed syllables ending in /l/ and /r/: (Isabele, comere)
6. /i/ for /e/ in final position following /ch/: (nochi)
7. Paradigmatic leveling of /e/ to i in infinitive and finite forms of ir verbs: (vistir, vistimos)
8. Reduplicated plurals: (cafeses)

English

1. /č/ and /š/ merger
2. /b/ and /v/ merger
3. /s/ as realization of /z/
4. Consonant cluster reduction and secondary effects
5. Realization of /t/-/d/ and /θ/ /ð/
6. /x/ for /h/
7. Realization of /I/ as /iy/
8. Realization of /w/ as /gw/
9. Pluralization of nominalized adjectives: (The bads < the bad ones)
10. Deletion of preterite and past participle markers: (he work < he worked), (I have work < I have worked)

9. Syntactic deviations (e.g. deletion of prepositions: comenzó trabajar ⟨ comenzó a trabajar)

10. Regularization of irregular verbs: (hací ⟨ hice)

11. 1st person plural subjunctive with nos replacing mos and regressive stress shift: háblenos (also háblemos) ⟨ hablemos; (also analogized to other tenses: hablaríanos, etc.)

11. Interferential Mexican Spanish intonation patterns

12. Stress mislocation, particularly in conjunction with nouns serving adjectival functions

One of the most important end-results of the Sociolinguistic program is to be the creation of a Bilingual Student Profile or Index, which would embody much of the information gained in our study. This would, of course, be supplemented by inputs from our Registrar's Office on Grade Point Average, Student Achievement Tests, High School Records, Graduate Record Exams and the like.

It will be necessary to complete the ongoing process of seeking correlations between the 68 variables hypothesized by our team members. These include many aspects of educational performance as they relate to attitudes toward the two cultures and languages, and the interrelations of linguistic perf ance and socioeducational variables. At this point, it appears to us that not all of the cherished beliefs about bilinguals and bidialectals will stand the tests to which we are putting them. For example, there appears to be a category, thus far poorly understood, of Southwest bilinguals/biculturals who far surpass the monlingual/monolectal, despite severe environmental handicaps, in overall school performance as well as communicative skills. What are the factors aside from inborn ability which might account for this phenomenon? These and scores of other issues beg for illumination through empirical research efforts.

C. SOME FINDINGS AND IMPLICATIONS

Attempts will be made in this section to focus on results and implications seemingly most germane to colleagues in our field. At this point we are moving toward a more detailed, in-depth analysis of the interrelationships of the three distinct corpora represented by: (1) Results of Sociolinguistic Background Questionnaire surveying 301 Ss (2) Language data from the linguistic sub-sample of 30 Ss (3) The CUES test results.

Findings of the CUES are discussed in detail by Wayne Murray's doctoral dissertation[10] on the subject, and a new article under preparation. A propos of the various dimensions of attitudes treated in the instrument, Murray found a significant difference of outlook between Chicanos and Anglos only in that of scholarship. Surprisingly enough, Mexican-Americans, contrary to the stereotype of reverence for learning attributed to Latin clutures, rated this university, its faculty and teaching efforts lower than did their Anglo peers. In general, he found sex rather than ethnicity the only variable which made much difference throughout the questionnaire. These points, nevertheless need some further explication and Murray's writings in progress promise to shed more light on the various issues embodied in the CUES study.

Confronted by such an abundance of data of varying types, the writer has sought a means for keeping some sort of perspective on it. This has resulted in the elaboration of a tentative working model for our research, described in detail in his recent essay "Relational Bilingualism--A Socio-Educational Approach to Studying Multilingualism Among Mexican-Americans."[11]

Striving for a broader framework in which to regard the possible effects of the bilingual status, our "relational" or "correlational" model attempts to view bilingualism and its analog biculturalism within the social contexts in which the individual lives and functions. Evaluations of his performative ability in the language pair and/or language varieties controlled by him, his language and cultural attitudes and loyalties, as well as his relative use of

languages are then examined as these may relate to the societal factors, most relevant to his existence. How does the bilingual/bicultural persons fare as compared with the monolingual/monocultural, both within the "small groups" and the macro-society in which he has membership, or aspires to membership? Admittedly this is a large order, but the futility of attempts to analyze bilingualism by focussing on its narrowest aspects, in a vacuum apart from reality ought to be apparent by now.

The fact that our study is particularly concerned with socio-educational considerations has naturally caused us to emphasize these particular relationships. Obviously, however, if the model has anything to offer, it could also be applied to such areas as socio-politics where an individual's welfare and progress may vary vastly according to differentiated linguistic-cultural or political affiliation. Therefore, the basic reference point tends to be a monolingual/monocultural individual adhering to some dominant or elite group. Such an approach, it would seem, would make it possible for linguist to join hands with social scientist in a more practical way than has been the case up to now.

Accordingly, our team has in this survey identified 69 variables and set up som 40 hypotheses concerning their possible interrelationships. It turned out that in essence it was necessary to seek possible correlations between the following sets of factors: (1) Linguistic variables with one another (2) Linguistic factors with socio-educational demographic one (3) Socio-educational factors with one another, or intra-socio-educational factors.

As a first step toward analysis through "relational bilingualism" the writer has set up a global "correlational matrix" with the 68 variables plotted on the vertical and horizontal grids (one variable had to be abandoned). The purpose of this is mostly to show at a glance whether

there is a positive or inverse relationship between any two variables at least at the .05 level of confidence, or whether no relationship exists at all. The main advantage of this device is that it helps the researcher to keep some sort of grasp, somewhat in the form of a "gestalt," over the frequently mind-boggling detail involved. For the present study, the following is the correlational matrix:

Figure 1 (Appendix)

It must be admitted that no matter how useful, a matrix cannot be claimed to be more than a point of reference for the various operations of data analysis, as it becomes available from the computer. For example, one may see at once with which of the remaining factors the two variables of overall performance in Spanish and English show correlations. Statistical details, no matter how sophisticated, are not sufficient unles buttressed by attempts to include humanistic information. Accordingly we are seeking at the various stages of our analysis to supplement discussions of results with ethnographic and socio-cultural data gleaned from a variety of sources. Even impressionistic data and anecdotal material (perhaps over-used by camp-stool linguists and certain types of anthropologists) ought to have a legitimate place here, granting that their provenience is clearly marked.

Moving now to language performance, it is revealing to consult a chart (Figure 2) showing the distribution of the scores of the 30 Ss of the subsample:

Figure 2 (Appendix)

It ought not be surprising to observe that Spanish performance was in general appreciably lower than it was in English. Nevertheless, scores in both languages were clustered at well above the intermediate level, and indeed between 3.0 and 3.9 on a 5-point scale. In the Southwest, of course, there is a complementary distribution of Spanish vs. English in the various domains

of living with English generally reserved for the formal domains. Obviously this does not make for "balanced bilingualism" however, the majority of our Ss had had the lion's share of their schooling in English as language of instruction (bilingual schooling is only now beginning to make any inroads). Hence it is to be expected that the control of formal registers of Spanish must come off as a poor second to English. It should, likewise, be kept in mind that the three-member panel of independent judges leaned in the direction of severity in their ratings. All bilinguals themselves, they almost appeared to reflect a certain tendency to be "plus catholique que le pape" in evaluating their subjects. In further writings much more will be said about the issues involved here.

In their paper, "Social Factors and Language"[12] Paul Goodman and Kathryn Renner provide some relevant correlations between certain linguistic and societal variables. Specialists in bilingualism ought to be interested in the following table from their study:

Table 1

Correlations Between Social Class and Selected Variables
In A Sample of Mexican Students
(N=30)

| Dependent Variable | Correlation | Amount of Variance Explained in the Dependent Variable |
|---|---|---|
| Use of English | | |
| A. at home | +.24* | 5.76 percent |
| b. at school | +.14* | 1.96 |
| c. during recreation | +.02* | .04 |
| d. in "mainstream" contacts | +1.19** | 3.61 |
| 3. at work | +01* | .01 |
| Loyalty to Spanish Language | +.16 | 2.56 |
| Loyalty to Spanish (Mexican-American) Customs | +.03 | .09 |
| Degree of Assimilation Problems | -.19 | 3.61 |

* (Not significant at the .05 level of confidence)

In interpreting this table, it is important to bear in mind that to have significance, a correlation must be above the .159 cut-off point, signifying that a statistical relationship does exist.

The hypothesis that social class would be directly related to the amount of English used in various contexts, was borne out only in such domains as the home and the "mainstream" contacts. Social status according to Goodman and Renner, explained a small amount of variance in language usage in the home (5.8 percent) and "mainstream" contacts (3.6 percent). At school and during recreation, social class did not affect the relative usage of Spanish versus English. Social status, then, for our population is not an overall significant factor in determining language usage, merely reflecting the writer thinks, the tenaciousness, pervasiveness and stability of Spanish-English bilingualism in the El Paso area (as contrasted with its tendency to yield to English among Los Angeles Chicanos).

Another prediction was a null hypothesis that there would be no difference by social class, in language usage at work. This prediction was made following consideration of the following two factors: (1) A very high percentage of our subjects are employed, if not the majority, hence a small correlation coefficient because of lack of variation in the independent variable, and (2) Situational factors such as language preference of customers and co-workers probably affect language choice of the employee, rather than social class. The null hypothesis, cannot be rejected by a correlation of .0116 and there is not significant difference in use of language at work by these different social classes.

Contrary to expectations and the findings of a somewhat related study in Los Angeles by Grebler, Moore and Guzman[13] only a small relationship between loyalty to the Spanish language and social class was found in our study. In fact, a positive relationship between social class and loyalty

to Mexican-American culture and customs was observable. As for social status and loyalty to Mexican-American culture this was neither negatively nor positively related (the correlation of +.03 is not significant at the .05 level of confidence).

At the present moment, our team is attempting to probe deeper the interrelations represented in still another matrix, focussing upon 10 linguistic and socio-educational variables. These may be seen in Figure and these consist of the following: sex, age, socio-economic status, year of college, high school rank, verbal part of Student Aptitude Test (SAT), mathematical part of SAT, Grade Point Average, Combined Spanish Performance, Combined English Performance. In addition, under each column one may also find the mean as well as the standard deviation.

Figure 3 (Appendix)

It can be seen that the above matrix emodies some of the leading indices of educational achievement in the U.S. school system. As we have noted, socio-economic status tends not to be a very powerful variable for our sample, perhaps reflecting an unusual homogeneity of the students surveyed, and one that may well be peculiar to the El Paso area. At any rate, a certain number of points have already been discussed with reference to the factors in Figure 3, and more profound analysis should be forthcoming eventually.

In line with the increasingly recognized importance of attitudinal components in language study and teaching, we are tremendously interested in our Subjects' perceptions of Spanish and English skills and of regional language varieties. Nevertheless, we will at least touch fleetingly on these issues. According to a comparison of Anglo and Mexican-American students attending the same university by Paul Goodman and Bonnie Brooks in their article[12] Mexican-American students showed themselves to be more "language

conscious" than their Anglo peers both as regards in Spanish and in English. These two researchers found in their analysis that 52 per cent of Mexican-Americans, or a majority, indicated having made such efforts with English, as compared with only 39 per cent of the Anglos.

In view of the fact that Chicanos had rated themselves lower than their actual performance at least in the language sample, there is good reason to assume that they feel less confident in their English language skills than their monolingual peers. This would appear to provide an additional incentive for taking action to upgrade proficiency.

When it came to Spanish skills, however, a similar picture emerged, with 75 percent of Mexican-Americans reporting efforts to improve in this language, and only 32 percent of Anglos so reporting. Obviously, Spanish for most Anglos does not carry with it the same motivation as does English for Mexican-Americans.

The apparent concern with communication skills in our Chicano subjects is well worth further research throughout the Southwest. Particularly would it be relevant to ascertain to what extent English language skills is regarded as a function of success in formal education. We have seen that English-language knowledge in our sub-sample, correlated significantly with the Verbal part of the SAT, but not the Mathematical part. To what extent it has correlation with Grade Point Average throughout the college careers of our Subjects is being investigated by us at this very moment.

Endeavoring to ascertain one Subject's perceptions of the language varieties used in this area, we included several items in the questionnaire for this purpose. Answers are shown in Table 2.

Table 2

Students Evaluation of Type of Spanish Used in the Area

| | Anglo | | Mexican-American | | Total | |
|---|---|---|---|---|---|---|
| | Number | Percent | Number | Percent | Number | Percent |
| Formal, Educated | 0 | 0% | 7 | 5% | 7 | 2% |
| Informal, Everyday | 46 | 32% | 62 | 40% | 108 | 37% |
| Southwest Dialect | 24 | 17% | 36 | 24% | 60 | 20% |
| Border Slang | 72 | 51% | 48 | 31% | 120 | 41% |
| Total | 142 | 100% | 153 | 100% | 295 | 100% |

Kolmogorov-Smirnov (one tailed test) $X^2 = 11.01$ $p < .001$.

As can be seen, the students believed that all four varieties were available in the Southwest locally, and only 5% of the Chicanos believed that what was heard here was "Formal, Educated Style," while no Anglos thought so, resulting in only 2% holding this view. The most frequent response was "Border Slang" (41%) since 51% of the Anglos chose this designation and 31% of the Mexican-American students agreed with them. The second most popular choice was "Informal, Everyday;" chosen by 37% of the whole sample. For this category, nevertheless, Chicanos registered a higher percentage (40%) than did the Agnlos (32%). The remaining students chose Southwest Dialect and again this was favored by more Mexican-American students than Anglo students (24% as against 17%). Again we found a statistically significant difference between our two groups at the .001 level.

Obviously, since 31% of the Mexican-Americans rated Southwest Spanish as "Border Slang," there is a great need for re-education of both Chicanos and Anglos as regards language attitudes. Of course, the 24% terming it "Southwest Dialect" and 40% "Informal, Everyday" variety were quite realistic. In general, the attitudes reflected by both groups (particularly the Anglos with 51%) typifying it as "Border Slang" would deter rather then facilitate programs and texts intended to utilize Southwest Spanish as a basis for

approaching Standard Educated Spanish, and for attempts to examine it as a legitimate informal language variety.

Along with this we attempted to determine the student's own self-evaluation of the varieties of Spanish and English controlled by them. The results of these are shown in two tables prepared by Goodman and Brooks and presented in Appendix 4 at the conclusion of this article.

Of the bilinguals, 87 or more than half, claimed "Informal, Everyday" language, 14 or somewhat more than 10% -- "Southwest Dialect," and a surprising 48, or about a third, felt that they could handle "Formal, Educated Style." The last figure is all the more surprising, since so few had characterized the general variety of regional Spanish so highly, while the tiny number of three respondents claiming only "Border Slang" is more reassuring than anything. A total of one Spanish-surname individual desclaiming ability to handle any variety attests to the strength of Spanish here.

As linguists our interest ought to be intense in the question of how communication skills figure as factors in the academic progress of Mexican-Americans. Do our findings at this point generally imply that by the time Chicanos reach college, their command of English does not generally represent a serious handicap, or a handicap at all. From our sample it would seem so. Perhaps the corollary of the above supposition is really that only those acquiring strong English language skills ever survive the selection process along the educational ladder in order to be admitted in college.

A distressing thought regarding the Ss of the sub-sample must be presented here. It is that by and large their English Compositions showed a remarkably small number of deviant phenomena. In fact, Robert Esch, Assistant Professor in our Department of English, had the following to say, after his examination of the compositions of the "V" series, as the sub-sample

corpus is called:

> The papers in the "V" series are simply "too good" in my opinion to be truly typical of the language production of Mexican-American bilinguals at the Freshman level--students with whom I deal and with whom I am most familiar." (Personal communication, February, 1973)

If indeed our analysis continues to show that in certain areas Mexican-American bilinguals are not disadvantaged in certain important aspects of the collegiate educational process, more credence will be lent to that small body of literature claiming that bilinguals are "advantaged," and may do much better as all-around students than their monolingual peers. Does perhaps ontogenetic development in two languages heighten semantic awareness and perceptions? If so, and since much of our formal education depends upon the understanding of abstract and other concepts, perhaps bilingualism/biculturalism can be shown to have great benefits for certain populations. For insight into the recent research findings on bilingualism and intelligence, as well as educational achievement, readers are referred to such essays as Elizabeth Peal and Wallace E. Lambert entitled "The Relationship of Bilingualism to Intelligence."[15]

In conclusion, the accomplishments of the Sociolinguistics Studies on Southwest Bilingualism, in five years of functioning, has (1) elicited a corpus of the speech (Spanish, English, and mixed) of several hundred young adults and set up taxonomies of leading variables in both languages; (2) devised and applied a Sociolinguistic Background Questionnaire with over ninety demographic, attitudinal and language usage items; (3) established working hypotheses for correlating such data with school performance records; and (4) developed a tentative working model (rational bilingualism) to correlate social educational factors and language skills.

Major applications of our growing "data bank" are anticipated in: (1) programs aimed at curricular change for culturally-linguistically divergent

pupils and students; (2) special texts and programs intended for bilinguals in both Spanish and English; (3) attitudinal profiles of bilinguals/biculturals useful in understanding and coping with the special problems of this population, and related ones (Puerto Rican, Cuban, and other Spanish-English speakers). Further replication in both similar and dissimilar educational contexts is ardently encouraged.[16]

FOOTNOTES

*Appreciation is expressed for research support which has led to this and related studies from: The Research Institute of the University of Texas at El Paso; Hogg Foundation for Mental Health, University of Texas at Austin; and the Spencer Foundation, Chicago. Acknowledgment is expressed for numerous suggestions made by both colleagues and students, including: Diane Fairbank, Depart. of Scoiology, Kathryn Renner, Dept. of Agricultural Economics, New Mexico State University, as well as to Alfonso Marques, a student here, Arturo Piñon, El Paso Public Schools, and Ellen Muller, who served as a panel for judging linguistic performance. Miss Muller, who is preparing an M.A. thesis on this subject, has moreover, made available relevant data on her findings. Finally special thanks go to Mr. Elmer Trone, our Assistant Registrar and his staff, for assistance in obtaining educational statistics.

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[1]Roger W. Shuy, "The Sociolinguists and Urban Language Problems," Language and Poverty, ed. Frederick Williams (Chicago: Marklam Publishing Co, 1970), pp. 11-24.

[2]Bonnie S. Brooks, Gary D. Brooks, Paul W. Goodman, and Jacob Ornstein, "Sociolinguistic Background Questionnaire: A Measurement Instrument for the Study of Bilingualism," Revised (El Paso: Cross-Cultural Southwest Ethnic Study Center, University of Texas, 1972).

[3]See Einar Haugen, The Norwegian Language in America: A Study in Bilingual Behavior, 2nd Ed. (Bloomington: Indiana University Press, 1969), pp. 72, 270-71 and "The Ecology of Language," Linguistic Reporter, Supplement 25 (Winter, 1971), pp. 19-26.

[4]Basil Bernstein, "A Sociolinguistic Approach to Socialization with Some Reference to Educability," Language and Poverty, ed. Williams (1970), pp. 25-61.

[5] Denis Lawton, Social Class Language and Education (New York, 1968).

[6] Robert C. Pace, et al., College and University Environment, Scales (CUES, form X-2) (Princeton, N. J.: Educational Testing Service, 1969).

[7]Wayne Murray as quoted in "Research in Progress," Bulletin of the Cross-Cultural Southwest Ethnic Study Center, 1:3 (March, 1972).

[8]Paul W. Goodman, "A Comparison of Spanish-Surnamed and Anglo College Students," Presented at the Rocky Mountain Social Science Association, Annual Meeting, Boulder, Colo. (April, 1970).

[9]The completed theses are: Carmen Scott Casillas, Spanish Language Maintenance and Loyalty in El Paso Juarez: A Sociolinguistic Study of the

Contact Situations in a Highly Bilingual Area (Unpublished thesis, University of Texas at El Paso, 1969); Normina Wolff de Porras, Anomalías Linguisticas en el Español de un Grupo de Estudiantes Bilingues (Unpublished thesis, University of Texas at El Paso, 1971); Tommy Lou Teel, A Sociolinguistic Study of Spanish Linguistic Interference and Nonstandard Grammatical Phenomena in the Written English of Selected Mexican-American Bilinguals (Unpublished thesis, University of Texas at El Paso, 1971). Approximately 20 term papers have been written on the bilingual corpora.

[10] Wayne Murray, Ethnic and Sex Differences as Related to Perceptions of a University Environment (Unpublished dissertation, Las Cruces: New Mexico State University, 1972).

[11] Jacob Ornstein, "Relational Bilingualism--A Socio-Educational Approach to Studying Multilingualism Among Mexican-Americans," (Prepared for XIth International Congress of Anthropological and Ethnological Sciences, August 23-September 8, 1972).

[12] Paul W. Goodman, and Kathryn Renner, "Social Factors and Language in the Southwest," Problems in Applied Educational Sociolinguistics: Readings in Language and Cultural Problems of U. S. Ethnic Groups, eds. Glenn Gilbert, Jacob Ornstein and Manuel Pacheco (Rowley, Mass.: Newbury House, forthcoming).

[13] Leo Grebler, Joan Moore, and Ralph Guzman, The Mexican American People: The Nation's Second Largest Minority (New York: Fress Press, 1970), pp. 423-24, and passim.

[14] Paul W. Goodman and Bonnie S. Brooks, "A Comparison of Anglo and Mexican-American Students Attending the Same University" (Prepared for Cross-Cultural Southwest Ethnic Study Center, University of Texas at El Paso, 1973).

[15] Elizabeth Peal and Wallace E. Lambert, "The Relation of Bilingualism to Intelligence," Psychological Monographs: General and Applied, 76:27 (1962), pp. 1-23. Although dated, this is one of the basic documents on the subject, and which has been followed by a fiar number of similar writings. One should also consult: Thomas P. Carter, Mexican-Americans in School: A History of Educational Neglect (New York: College Entrance Examination Board, 1970). Unfortunately there is an extremely sparse literature on research on college-age Mexican-American bilinguals, but readers are referred to the ERIC system and to such writings as: Horacio Ulibarri, "Bilingualism," in The Britannica Review of Foreign Language Education, I, ed. Emma M. Birkmaier (Chicago: Encyclopedia Britannica, 1968), pp. 229-58, which discusses some important recent studies. Moreover, lists of papers produced under the aegis of the Cross-Cultural Southwest Ethnic Study Center are available on a continuing basis from Mrs. Shirley Coit, Librarian, The Center, Box 13, University of Texas at El Paso, 79968.

[16] Further studies by the writer based partially or completely on the Sociolinguistic Studies on Southwest Bilingualism include: "Language Varieties along the U. S.-Mexican Border," Applications of Linguistics: Selected Papers of the Second International Congress of Applied Linguistics, eds. G. E. Perren and J. L. M. Trim (Cambridge, England: Cambridge University Press, 1971), pp. 349-62; "Sociolinguistic Investigation of Language Diversity in the U. S. Southwest and its Educational Implications," Modern Language Journal, 55 (April, 1971), pp. 224-29; "Sociolinguistics and New Perspectives in the Study of Southwest Spanish," Studies in Language and Linguistics (1969-1970), eds. Ralph W. Ewton, Jr. and Jacob Ornstein (El Paso: Texas Western Press, 1970),

pp. 127-84; "Mexican-American Sociolinguistics: A Well-Kept Scholarly and Public Secret" (To appear in Proceedings of 4th Triennial Conference on Symbolic Processes, Washington, D.C., April 27-28, 1972); "Sociolinguistic Changes Viewed Within A Tagmemic Framework" (To appear in Proceedings of 11th International Congress of Linguists, Bologna, Italy, August 22-27, 1972); "Applying Sociolinguistic Research to the Educational Needs of Mexican-American Bilinguals in the U. S. Southwest" (To appear in Proceedings of 3rd International Congress of Applied Linguistics, Copenhagen, Denmark, August 28-September 2, 1972); "Toward an Inventory of Interdisciplinary Tasks in Research on U. S. Southwest Bilingualism Biculturalism," Bilingualism in the Southwest, ed. Paul R. Turner (Tucson: University of Arizona Press, 1972).

APPENDIX

Figure 2

V SERIES

(N = 30)

Part A Distribution of Oral and Written Scores

| SCALE | SPANISH ORAL | SPANISH WRITTEN | ENGLISH ORAL | ENGLISH WRITTEN |
|---|---|---|---|---|
| 1.0-1.9 | - | 1 | - | - |
| 2.0-2.9 | 10 | 13 | - | 1 |
| 3.0-3.9 | 15 | 15 | 17 | 20 |
| 4.0-4.9 | - | - | - | - |
| 5.0 | 5 | 1 | 13 | 9 |

Part B Distribution of Combined Scores

| SCALE | SPANISH ORAL | SPANISH WRITTEN | ENGLISH ORAL | ENGLISH WRITTEN |
|---|---|---|---|---|
| 1.0-1.9 | - | - | - | - |
| 2.0-2.9 | 13 | 13 | 1 | 1 |
| 3.0-3.9 | 16 | 16 | 21 | 21 |
| 4.0-4.9 | - | - | - | - |
| 5.0 | 1 | 1 | 8 | 8 |

Figure 3

LANGUAGE PERFORMANCE AND EDUCATIONAL ACHIEVEMENT INDICES

V SERIES

(N = 30)

| SUBJECT NUMBER | SEX | AGE | SES | CL | H.S. RANK | SAT MATH | SAT VERBAL | GPA | COMBINED SPAN. PERF. | COMBINED ENG. PERF. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. | F | 19 | 3 | 1 | 1 | 507 | 584 | 3.4 | 2.4 | 3.8 |
| 2. | F | 19 | 2 | 1 | 1 | 383 | 448 | 1.9 | 2.7 | 3.8 |
| 3. | M | 18 | 1 | 1 | 1 | 389 | 472 | 2.6 | 3.4 | 3.9 |
| 4. | F | 21 | 2 | 4 | 1 | 478 | 600 | 3.3 | 3.0 | 4.0 |
| 5. | M | 21 | 3 | 4 | 1 | 496 | 525 | 2.1 | 2.7 | 3.6 |
| 6. | M | 22 | 2 | 1 | - | 289 | 237 | 1.0 | 2.0 | 2.7 |
| 7. | F | 22 | 2 | 4 | 2 | 261 | 346 | 2.7 | 3.9 | 3.9 |
| 8. | M | 20 | 2 | 4 | 1 | 627 | 665 | 3.0 | 2.3 | 3.7 |
| 9. | F | 21 | 3 | 2 | - | - | - | - | 3.4 | 3.9 |
| 10. | F | 19 | - | 1 | 1 | 564 | 474 | 2.9 | 2.9 | 3.7 |
| 11. | M | 22 | 2 | 4 | 3 | 407 | 366 | 2.9 | 3.6 | 3.9 |
| 12. | F | 20 | 4 | 3 | 3 | 452 | 436 | 2.2 | 2.3 | 3.8 |
| 13. | M | 21 | 3 | 4 | 1 | 577 | 587 | 4.0 | 3.0 | 4.0 |
| 14. | F | 24 | 2 | 4 | 1 | 507 | 448 | 2.8 | 3.5 | 3.9 |
| 15. | F | 19 | 4 | 3 | 1 | 357 | 383 | 3.4 | 2.0 | 3.7 |
| 16. | F | 19 | 3 | 2 | 1 | 430 | 359 | 3.1 | 3.1 | 3.8 |
| 17. | F | 19 | 4 | 3 | 1 | - | - | 3.3 | 2.8 | 3.9 |
| 18. | F | 19 | 4 | 2 | 1 | 473 | 572 | 3.0 | 3.8 | 4.3 |
| 19. | F | 19 | 1 | 3 | 1 | 448 | 497 | 2.6 | 3.5 | 4.1 |
| 20. | F | 20 | 2 | 3 | 3 | 447 | 346 | 2.5 | 3.5 | 4.2 |
| 21. | M | 25 | 1 | 2 | 2 | - | - | 2.6 | 3.8 | 4.3 |
| 22. | M | 21 | 1 | 3 | 1 | 414 | 369 | 2.0 | 3.5 | 3.9 |
| 23. | M | 21 | 2 | 4 | 1 | 505 | 368 | 3.1 | 2.9 | 3.8 |
| 24. | M | 21 | 1 | 2 | 2 | 474 | 442 | 1.8 | 2.9 | 3.7 |
| 25. | F | 26 | 2 | 4 | 1 | 497 | 396 | 3.0 | 3.8 | 4.2 |

V Series
(continued)

| SUBJECT NUMBER | SEX | AGE | SES | CL | H.S. RANK | SAT MATH | SAT VERBAL | GPA | COMBINED SPAN. PERF. | COMBINED ENG. PERF. |
|---|---|---|---|---|---|---|---|---|---|---|
| 26. | M | 21 | 2 | 4 | 1 | 488 | 515 | 2.4 | 2.6 | 3.8 |
| 27. | M | 24 | 4 | 1 | - | - | - | 2.3 | 4.3 | 3.4 |
| 28. | M | 20 | 3 | 2 | 2 | 353 | 361 | 2.3 | 2.9 | 3.3 |
| 29. | F | 18 | 4 | 1 | 2 | 358 | 335 | 1.7 | 3.2 | 4.2 |
| 30. | M | 21 | 1 | 2 | 2 | 335 | 342 | 1.7 | 3.4 | 3.2 |
| MEAN | 1.5 | 20.7 | 2.2 | 2.7 | 1.5 | 442.2 | 441.3 | 2.6 | 3.1 | 3.8 |
| S. D. | ±0.5 | ±1.95 | ±1.0 | ±1.1 | ±.685 | ±14.2 | ±14.2 | ±3.0 | ±3.1 | ±2.0 |

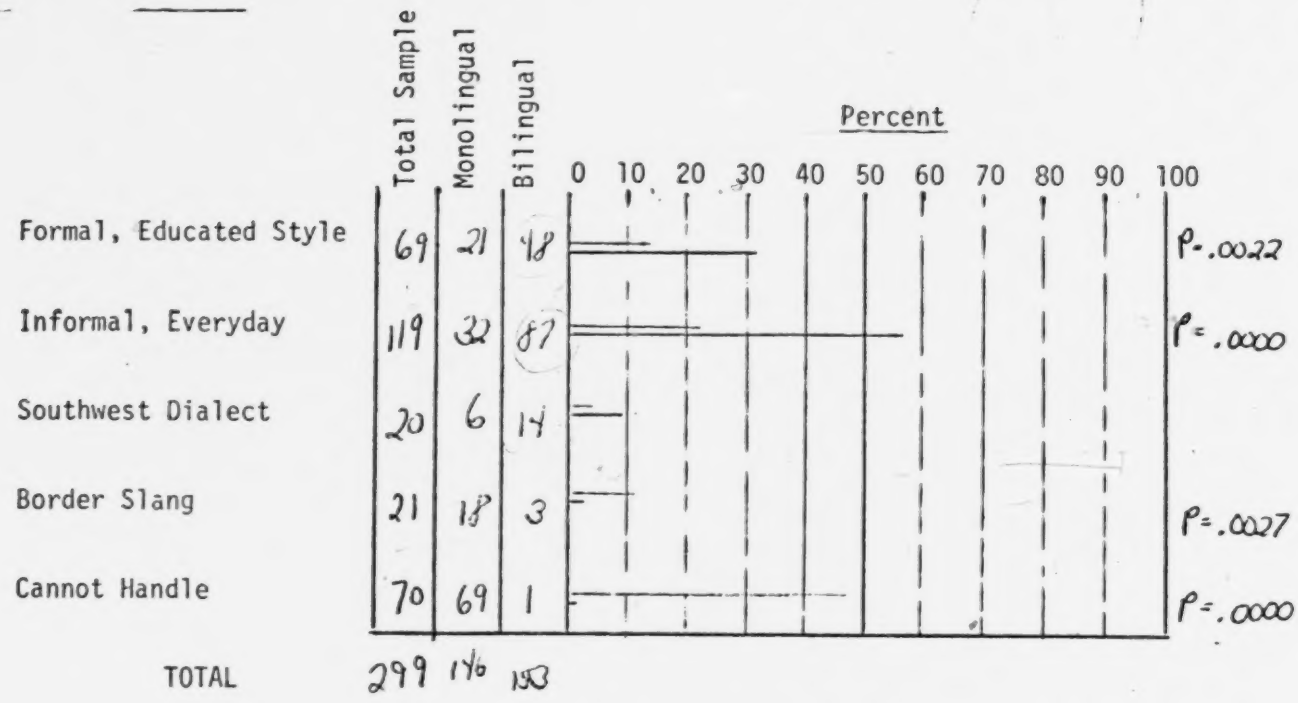
NOTES: Explanations

Dashes (-) represent information not available
CL=Class; year of college
SES=Socio-Economic Status
1=Lower-Lower
2=Upper-Lower
3=Lower-Middle
4=Upper-Middle
5=Lower-Upper
H.S.=High School Rank
H.S. Rank:
1=First Quarter
2=Second Quarter
3=Third Quarter
SAT=Scholastic Aptitude Test
GPA-Grade Point Average
Span. Perf=Oral and Written Spanish Ratings Combined (See Scale belo
Eng. Perf.=Oral and Written English Ratings Combined (See Scale belo
S.D.=Standard Deviation

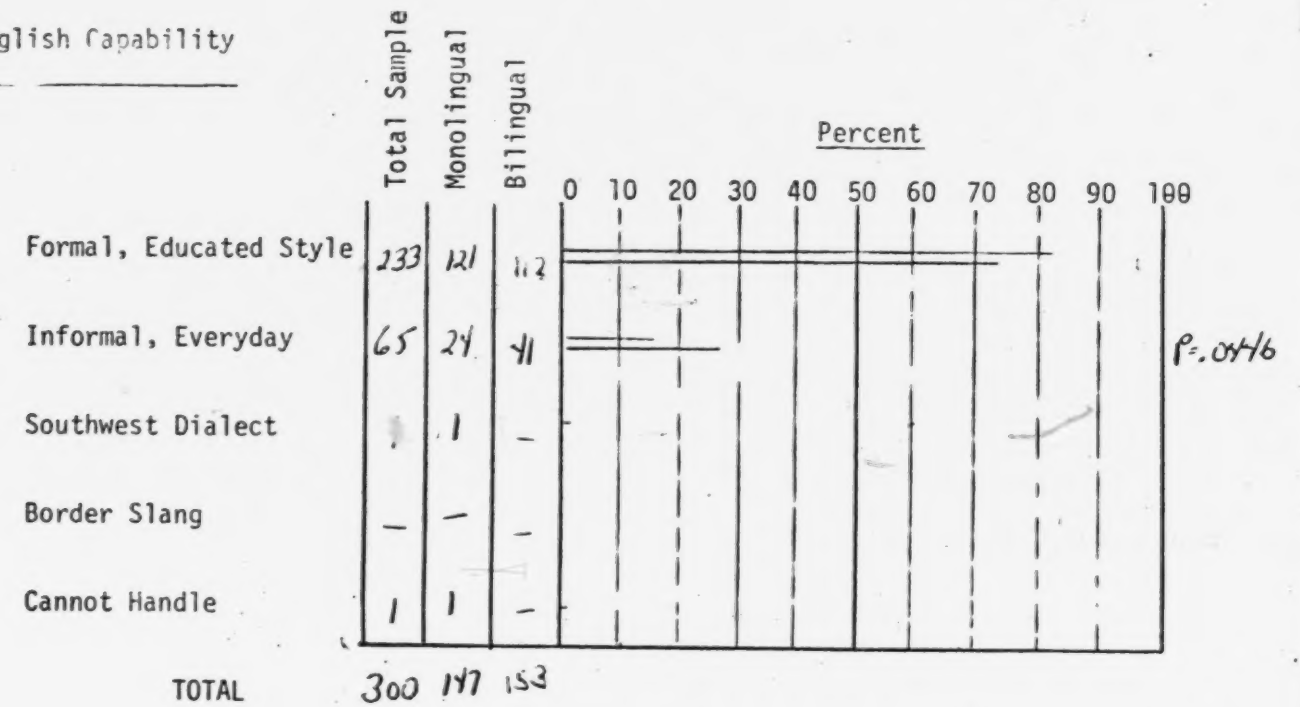
Language Performance Scale:
1=No functional Knowledge
2=Elementary
3=Intermediate
4=Advanced
5=Educated Native

APPENDIX
Figure 4

Spanish Capability




English Capability



| | Father's Ed. | Mother's Ed. | Social Class | Work use of Spanish | Home use of Spanish | Environment use-Spanish | Pre-college use-Spanish | College use Spanish | Church use of Spanish | Recreation use-Span. | No. siblings | Adjustment problems | Attitude towards militancy | Difficulty of college Span. | Language preference | English fluency (self-evaluation) | Spanish fluency (self-evaluation) | Importance of English | Total score-language use | High School* Rank | GPA* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Father's Ed. | | + | + | ○ | + | ○ | ○ | ○ | ○ | | ! | | | | | | | | | | |
| Mother's Ed. | | | + | ○ | + | ○ | ○ | ○ | ○ | | ! | | | | | | | | | | |
| Social Class | | | | | + | ○ | ○ | ○ | ○ | | | | | | | | | | | | |
| Work use of Spanish | | | | | + | ○ | ○ | ○ | + | | | | | | | + | + | | + | | |
| Home use of Spanish | | | | | | + | + | + | + | | − | | | | | − | | | | | |
| Environment use-Spanish | | | | | | | | | | | | + | | | + | | | | + | | |
| Pre-college use-Spanish | | | | | | | | + | + | + | − | | | | | | | | + | | |
| College use Spanish | | | | | | | | | + | + | | + | | − | | | − | | + | | |
| Church use of Spanish | | | | | | | | | | + | | | | | + | | − | | + | | |
| Recreation use-Span. | | | | | | | | | | | | | | | | | − | | + | | |
| No. siblings | | | | | | | | | | | | | | | | | | | | | |
| Adjustment problems | | | | | | | | | | | | | + | | | | | | | | |
| Attitude towards militancy | | | | | | | | | | | | | | | | | − | | | | |
| Difficulty of college Span. | | | | | | | | | | | | | | | | | + | | | | |
| Language preference | | | | | | | | | | | | | | | | | | | | | |
| English fluency (self-evaluation) | | | | | | | | | | | | | | | | | | − | | | |
| Spanish fluency (self-evaluation) | | | | | | | | | | | | | | | | | | | + | | |
| Importance of English | | | | | | | | | | | | | | | | | | | | | |
| Total score-language use | | | | | | | | | | | | | | | | | | | | | |
| High School* Rank | | | | | | | | | | | | | | | | | | | | | |
| GPA* | | | | | | | | | | | | | | | | | | | | | |
| SAT-Math* | | | | | | | | | | | | | | | | | | | | | |
| SAT-Verbal* | | | | | | | | | | | | | | | | | | | | | |
| Spanish Perf.* Combined Score* | | | | | | | | | | | | | | | | | | | | | |
| English Perf.* Combined Score | | | | | | | | | | | | | | | | | | | | | |
| Oral Spanish Score* | | | | | | | | | | | | | | | | | | | | | |

APPENDIX
FIGURE 1

| | Spanish | Home use of Spanish | Environment use-Spanish | Pre-college use-Spanish | College use Spanish | Church use of Spanish | Recreation use-Span. | No. siblings | Adjustment problems | Attitude towards militancy | Difficulty of college Span. | Language preference | English fluency (self-evaluation) | Spanish fluency (self-evaluation) | Importance of English | Total score-language use | High School* Rank | GPA* | SAT-Math* | SAT-Verbal* | Spanish Perf.* Combined Score* | English Perf.* Combined Score | Oral Spanish Score* | Written* Spanish Score | Oral English* Score | Written English Score* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Spanish | | + | + | + | + | + | + | - | + | | - | + | - | + | | + | | | - | - | + | + | + | + | + | + |
| Home use of Spanish | | | + | + | + | + | + | - | + | | - | + | - | + | | + | | | - | - | + | + | + | + | + | + |
| Environment use-Spanish | | | | + | + | + | + | - | + | | - | + | - | + | | + | | | - | - | + | + | + | + | + | + |
| Pre-college use-Spanish | | | | | + | + | + | - | + | | - | + | - | + | | + | | | - | - | + | + | + | + | + | + |
| College use Spanish | | | | | | + | + | - | + | | - | + | - | + | | + | | | - | - | + | + | + | + | + | + |
| Church use of Spanish | | | | | | | + | - | + | | - | + | - | + | | + | | | - | - | + | + | + | + | + | + |
| Recreation use-Span. | | | | | | | | - | + | | - | + | - | + | | + | | | - | - | + | + | + | + | + | + |
| No. siblings | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adjustment problems | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Attitude towards militancy | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Difficulty of college Span. | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Language preference | | | | | | | | | | | | | | | | | | | | | | | | | | |
| English fluency (self-evaluation) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Spanish fluency (self-evaluation) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Importance of English | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total score-language use | | | | | | | | | | | | | | | | | | | | | | | | | | |
| High School* Rank | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GPA* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SAT-Math* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SAT-Verbal* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Spanish Perf.* Combined Score* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| English Perf.* Combined Score | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oral Spanish Score* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Written* Spanish Score | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oral English* Score | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Written English Score* | | | | | | | | | | | | | | | | | | | | | | | | | | |

+ - Positive relationship significant at .05 level
− - Inverse relationship significant at .05 level
○ - No relationship at .05 level

* N-30 (otherwise N is 1

APPENDIX
FIGURE 1

p significant at .05 level
o significant at .05 level
05 level

* N-30 (otherwise N is 100 or greater)